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July 2011

BALLISTIC MISSILE DEFENSE

Actions Needed to Improve Training Integration and Increase Transparency of Training Resources

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July 2011

BALLISTIC MISSILE DEFENSE

Actions Needed to Improve Training Integration and Increase Transparency of Training Resources

GAO Accountability * Integrity * Reliability

Highlights

Highlights of GAO-11-625, a report to congressional committees

Why GAO Did This Study

Since 2002, the Department of Defense (DOD) has spent over $80 billion on developing and fielding a Ballistic Missile Defense System (BMDS) comprised of various land-and sea-based elements employed by multiple combatant commands and services. Since the time available to intercept a missile is short, integrating training among all organizations involved is important to connect seams where commands and elements must work together. In response to House Report 111-491 which accompanied H.R. 5136, GAO assessed the extent to which DOD has (1) developed a plan for integrating ballistic missile defense training across and among commands and multiple elements, and identified training roles, responsibilities, and commensurate authorities; and (2) identified and budgeted for the resources to support training. To do so, GAO analyzed DOD training instructions, plans, exercises, and budgets and assessed the extent to which the Missile Defense Agency (MDA) and the services have agreed on training cost estimates and funding responsibilities.

What GAO Recommends

GAO recommends that DOD designate an entity with authority to develop a strategy for integrating training, and set a deadline to complete training cost estimates and funding agreements and report total BMDS training cost estimates. DOD generally concurred with the merits of our recommendations but did not commit to a timeframe for implementation.

View GAO-11-625 or key components.
For more information, contact John Pendleton at (404) 679-1816 or pendletonj@gao.gov.

What GAO Found

DOD has identified roles and responsibilities and developed training plans for individual ballistic missile defense elements and combatant commands, but has not developed a strategy for integrating training among ballistic missile defense organizations and elements in a manner that requires them to operate as they would in an actual engagement. A Joint Staff Instruction sets out tenets of joint training including “train the way you operate” and DOD guidance requires synchronization of training among the services and combatant commands. The services and combatant commands are conducting some integrating training—training across and among combatant commands and services—but our analysis of exercises shows that there may be some training gaps. For example, although some exercises included more than one combatant command, few included multiple live elements. GAO’s guide for assessing training programs states that a training program should include an overall training strategy and an organization that is held accountable for achieving training goals. However, DOD has not developed an overall strategy that includes requirements and standards for integrating ballistic missile defense training because DOD has not clearly designated an entity to be responsible for integrating training across and among all organizations involved and provided it with the authority to do so. Without an overall strategy that includes requirements and standards for integrating training, DOD runs the risk that the organizations that need to work together may have limited opportunities to realistically interact prior to an actual engagement.

DOD lacks visibility over the total resources that may be needed to support ballistic missile defense training since the funds are currently dispersed across MDA and the services, and some of the services’ budget estimates do not separately identify ballistic missile defense training. A further complication is that agreements between MDA and the services on funding responsibilities and life-cycle cost estimates—which include training—have not been completed and approved for all elements. GAO compiled budget documents and data from various sources and estimated about $4 billion has been planned for ballistic missile defense training from fiscal years 2011 through 2016. However, some of the services’ resources for ballistic missile defense training are not easily identifiable since some training is funded as part of a more comprehensive training program. GAO found examples of gaps between training requirements and budgeted resources, such as a $300 million requirement in the Terminal High Altitude Air Defense program that is not included in MDA’s budget plans. DOD and MDA policies identify the need to complete cost estimates and funding responsibilities for elements as they are developed; however, there are no procedures or deadlines in place requiring that MDA and the services agree on funding responsibilities and complete training cost estimates before elements are fielded. As a result, DOD and congressional decision makers do not have a full picture of the resources that will be needed over time and risk training gaps.

Contents

Figures

Abbreviations

AN/TPY-2	Army Navy/Transportable Radar Surveillance System
BMDS	Ballistic Missile Defense System
DOD	Department of Defense
MDA	Missile Defense Agency
THAAD	Terminal High Altitude Area Defense

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United States Government Accountability Office
Washington, DC 20548

July 18, 2011

Congressional Committees

In 2002, the President of the United States directed the Department of Defense (DOD) to field an integrated, interconnected, and layered Ballistic Missile Defense System (BMDS) capable of defending the U.S. homeland, deployed troops, friends, and allies against ballistic missiles of all ranges in all phases of flight. DOD has spent over $80 billion to develop the BMDS, and since its initial fielding has added additional capabilities. Since there is limited time available to intercept an incoming missile, integrating training among all organizations involved is essential to connect the seams where the commands and services must work together. However, DOD recognizes that funding for training will face significant budget pressures amid the department's competing demands for current operations, acquisitions, and personnel expenses.

The BMDS is comprised of various land- and sea-based elements,[1] including radars, interceptors,[2] and command and control systems that are employed together to effectively intercept an incoming missile. Ballistic missile defense is an inherently joint operation that may require the simultaneous involvement of multiple commands and services which operate the system's elements. For example, each combatant command is responsible for ballistic missile defense operations in its geographic area and individual ballistic missile defense elements are operated by a

[1] The Missile Defense Agency was established to develop the BMDS and the system's elements discussed in this report include Aegis Ballistic Missile Defense; Army Navy/Transportable Radar Surveillance system forward-based radar; Command, Control, Battle Management, and Communications; Ground-based Midcourse Defense; Patriot Advanced Capability-3; Terminal High-Altitude Area Defense; Sea-based X-Band Radar; Upgraded Early Warning Radar; and Cobra Dane Radar. See table 1 for details describing each of these elements.

[2] An interceptor is a component of some ballistic missile defense elements that is used to destroy an adversary's ballistic missile. For example, the Missile Defense Agency is building the Standard Missile-3 to be used as an interceptor as part of the Aegis Ballistic Missile Defense element.

lead military service.[3] In addition, a combatant command and the service units and organizations in one geographic area may have to work with their counterparts in another geographic area to intercept a ballistic missile that crosses from one area into another. Since the time available to identify, track, and intercept ballistic missiles is generally less than 30 minutes,[4] effective integration of all the commands and elements is critical to successful ballistic missile defense operations. Training of the combatant commands and services in a joint environment is essential to such integration.

This report responds to House Report 111-491 which accompanied a bill for the National Defense Authorization Act for Fiscal Year 2011 (H.R. 5136). In the House Report, the committee expressed concerns that current training programs for missile defense do not fully reflect the global and inherently joint nature of ballistic missile defense system operations. The House Report directed GAO to provide information describing existing training and education programs for ballistic missile defense, an assessment of synchronization and standardization across training programs and recommendations for training improvements. In response, this report assesses the extent to which DOD has (1) developed a plan for integrating ballistic missile defense training across and among commands and multiple elements and identified training roles, responsibilities, and commensurate authorities; and (2) identified and budgeted for resources to support ballistic missile defense training.

To address our objectives we obtained and analyzed relevant documents—including reports, instructions, and data—related to ballistic missile defense training and interviewed officials from across DOD such as the Missile Defense Agency (MDA); the Office of the Under Secretary of Defense for Acquisitions, Technology and Logistics; the Office of the Under Secretary of Defense for Personnel and Readiness; the combatant commands; and various organizations within the Departments of the

[3] Each lead service is responsible for providing personnel; force protection; operations and support; and developing doctrinal, organizational, and facilities requirements. The transition process from MDA to a lead service also involves the lead service beginning to assume responsibility for operating, supporting, and funding BMDS elements. DOD has designated lead services for eight of the nine BMD elements that are currently or soon will be fielded. All the elements are operated by military personnel except for the Sea-based X Band Radar which is operated by the contractor.

[4] Flight times are 3-9 minutes for a short-range missile, 9-19 minutes for a medium-range missile, 19-26 minutes for an intermediate-range missile, and greater than 26 minutes for an intercontinental missile.

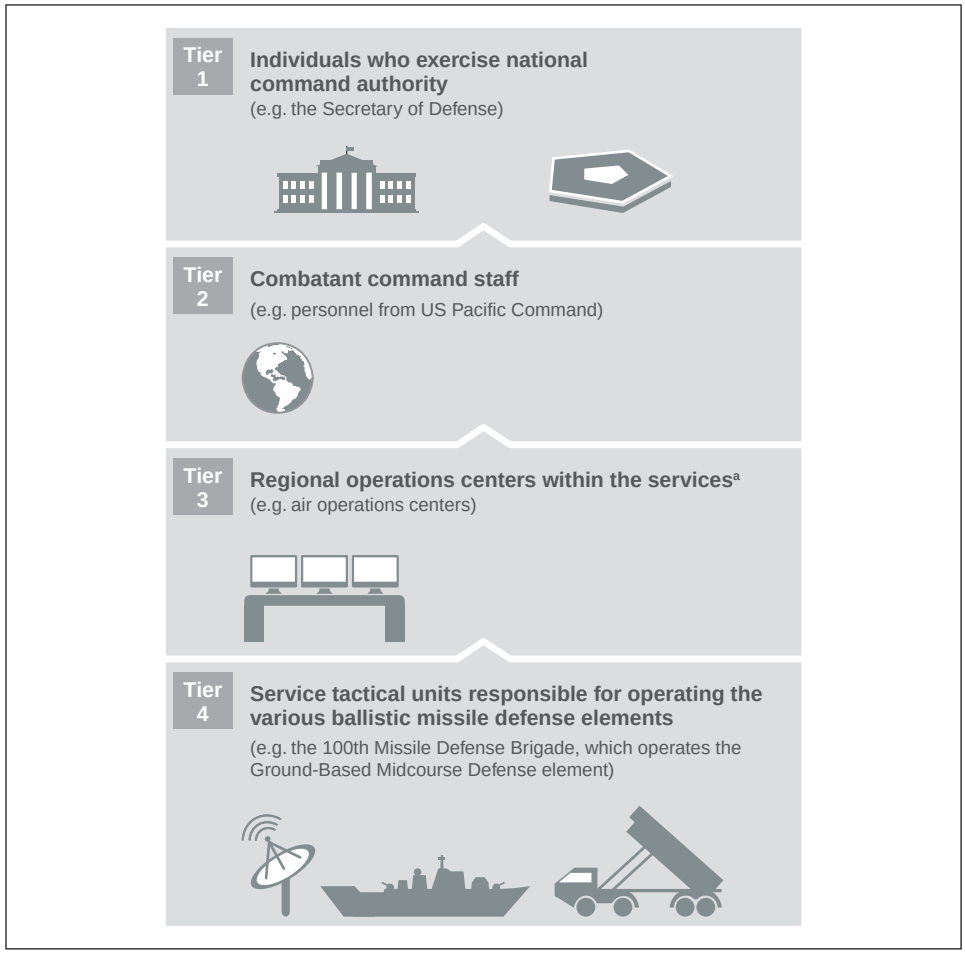
Army, Navy, and Air Force. To assess the extent to which DOD has developed a plan for integrating ballistic missile defense training across and among commands and multiple elements and identified training roles, responsibilities, and commensurate authorities, we obtained and reviewed DOD, combatant command, and service instructions and training plans. We also analyzed ballistic missile defense exercise information from fiscal years 2009 and 2010 to determine the extent to which integrating training across and among commands and service-operated elements has occurred. To assess the extent to which DOD has identified and budgeted for resources to support ballistic missile defense training, we analyzed MDA and service budget documents and assessed training budget data and compared budget documents and data to training requirements to assess whether there were shortfalls between budget estimates and training requirements. We also assessed the extent to which MDA and the services have agreed on training cost estimates and funding responsibilities.

We conducted this performance audit from July 2010 to July 2011 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Further details on our scope and methodology can be found in appendix I.

Background

There are several levels of DOD organizations that are involved in ballistic missile defense operations. In general, these organizations can be categorized into "tiers" as shown in the figure below:

Figure 1: Ballistic Missile Defense Training Tiers



Source: GAO summary of DOD documents.

Note: Although the definition of tiers can vary somewhat, we worked with the combatant commands to define the tiers as shown here.

[a]Regional operations centers develop operational plans based on strategic guidance.

Integrating training is training that includes live participants from more than one tier and/or multiple organizations from within the same tier. Live participants refer to personnel who participate in the exercises using equipment that requires them to operate as they would in an actual ballistic missile defense engagement. According to a Chairman of the

Joint Chiefs of Staff Instruction[5] the joint training vision is for everyone required to conduct military operations to be trained under realistic conditions and to exacting standards prior to execution of those operations. The instruction also sets out tenets of joint training, including "train the way you operate" and states that joint training must be based on relevant conditions and realistic standards. In addition, according to joint doctrine for joint operations to counter theater air and missile threats across the range of military operations, coordination between organizations involved in cross-boundary missile defense operations must be rehearsed—i.e., trained—not just planned.[6] Depending on the type of ballistic missile defense engagement, not all four tiers need to be involved in each event for the training to be realistic; however, ballistic missile defense operations generally necessitate integration both horizontally across a tier, and vertically between at least two tiers. For example, engaging a ballistic missile threat may require horizontal coordination across more than one combatant command and multiple elements as well as vertical coordination from the combatant commands down to the elements. Finally, DOD recognizes the importance of integrating ballistic missile defense training horizontally and vertically. DOD's *Strategic Plan for the Next Generation of Training for the Department of Defense*[7] considers synchronizing training among the services, combatant commands, and others to be a requirement of training integration and states that an immersive training environment must support full-spectrum operations, including missile defense. To enhance training integration for the BMDS the U.S. Strategic Command, U.S. Joint Forces Command, and MDA began organizing the Ballistic Missile Defense Training and Education Group, which also includes combatant commands and the services in July 2010.[8] According to the draft charter, goals for the group

[5] Chairman of the Joint Chiefs of Staff Instruction 3500.01F, *Joint Training Policy and Guidance for the Armed Forces of the United States* (Nov. 19, 2010).

[6] Joint Publication 3-01, *Countering Air and Missile Threats* (Feb. 5, 2007).

[7] Office of the Under Secretary of Defense (Personnel and Readiness), *Strategic Plan for the Next Generation of Training for the Department of Defense* (Sept. 23, 2010).

[8] DOD had previously established the Integrated Training Working Group, in 2004, to coordinate training efforts across DOD, develop ballistic missile defense training policy, and validate a master BMDS training plan. According to DOD officials, the group did not complete these tasks and ceased meeting around September 2009. Once the Ballistic Missile Defense Training and Education Group charter is signed, it will officially replace the Integrated Training Working Group according to DOD officials.

include identifying, evaluating, and coordinating ballistic missile defense training requirements and, in coordination with key ballistic missile defense stakeholders, increasing the effectiveness of ballistic missile defense training by promoting the development and implementation of a standardized training program.

DOD faces training challenges as it concurrently develops the elements and transitions the elements to the services to operate them. Table 1 includes a description of selected BMDS elements, the lead service for each element, and shows when each element was initially fielded.

Table 1: List of Selected BMDS Elements, the Lead Service, Description, and Date Initially Fielded

BMDS element	Lead Service	Description	Date initially fielded
Aegis Ballistic Missile Defense	Navy	This ship-based element is designed to protect deployed U.S. forces, allies, and friends against ballistic missile attacks and to serve as a forward-deployed sensor, especially in support of the ground-based mission.	September 2004
Ground-based Midcourse Defense	Army	This element is designed to protect the U.S. homeland against incoming ballistic missiles launched from Northeast Asia and the Middle East.	September 2004
Patriot Advanced Capability 3	Army	This element provides simultaneous air and missile defense capabilities as the Lower Tier element in defense of U.S. deployed forces and allies against short-range ballistic missiles.	September 2001 Transferred to Army in 2003.
Army Navy/Transportable Radar Surveillance system (AN/TPY-2) Forward Based	Army	This transportable, land-based X-band radar will be forward-based to provide additional advance warning of ballistic missile launches.	June 2006
Terminal High Altitude Area Defense (THAAD)	Army	This ground-based element is designed to defend deployed U.S. forces and population centers against short- and medium-range ballistic missiles	2nd Quarter 2012
Command, Control, Battle Management and Communications	None	A networked computer and communications element developed by MDA to integrate the BMDS by providing deliberate planning, situational awareness, sensor management, and battle management capabilities.	Initial capability delivered in 2004
Sea Based X Band Radar	Navy	This radar, built on a moveable sea platform, will improve the ability to acquire, track, and discriminate decoys during the midcourse of flight.	February 2007
Cobra Dane	Air Force	This sensor is designed to provide updated midcourse missile tracking data to the ground-based element.	October 2004
Upgraded Early Warning Radar	Air Force	This sensor is designed to provide updated midcourse missile tracking data to the ground-based element.	December 2004

Source: Summary from prior GAO reports and DOD information.

In order to facilitate the transition of responsibilities for ballistic missile defense elements—including responsibilities for training—from MDA to the services, MDA has overarching memoranda of agreement with the Army, Navy, and Air Force. Each of these overarching agreements provides a framework for the service and MDA to develop specific agreements on responsibilities, including developing doctrine, training, and facilities requirements for each element. In addition, DOD intends to develop element-specific agreements to specify which organization will fund specific operating and support costs, including training. In 2008, DOD created the BMDS Life Cycle Management Process, in part, to manage the BMDS as a portfolio and develop a ballistic missile defense

budget that includes funding for MDA support of ballistic missile defense training.

This report is one in a series of reports we have issued on ballistic missile defense. For example, we reported earlier this year that while MDA has improved the transparency and accountability of its acquisition decisions, we found issues limiting the extent to which cost, schedule, and performance can be tracked and unexplained inconsistencies in unit and life-cycle cost baselines.[9] Also this year, we reported that DOD's implementation of the European Phased Adaptive Approach faces challenges including a lack of clear guidance and life-cycle cost estimates.[10] In addition, in September 2009 we reported that DOD had not identified its requirements for BMDS elements and had not fully established units to operate the elements before making them available for use.[11] DOD generally concurred with our recommendations in these reports, and in their comments indicated plans to take some action to address them. For a list of GAO reports on ballistic missile defense, see the list of Related GAO Products at the end of this report.

Some Integrating Ballistic Missile Defense Training Occurs but Gaps May Exist and Current Efforts Are Not Guided by a Holistic Strategy

DOD has identified roles and responsibilities and developed training plans for individual ballistic missile defense elements and combatant commands, but it has not developed an overarching strategy for integrating ballistic missile defense that specifies requirements for training across and among commands and multiple elements. DOD and Joint Staff guidance emphasize the importance of realistic joint training based on relevant conditions and realistic standards. In addition, DOD's strategic plan for training sets out requirements for training integration including synchronizing DOD component training among the services and combatant commands. The services and combatant commands conduct some integrating training; however, our analysis showed that there are some training gaps such as limited training across more than two tiers and simulated rather than live participation in exercises. For example,

[9] GAO, *Missile Defense: Actions Needed to Improve Transparency and Accountability*, GAO-11-372 (Washington, D.C.: Mar. 24, 2011).

[10] GAO, *Ballistic Missile Defense: DOD Needs to Address Planning and Implementation Challenges for Future Capabilities in Europe*, GAO-11-220 (Washington, D.C.: Jan. 26, 2011).

[11] GAO, *Missile Defense: DOD Needs to More Fully Assess Requirements and Establish Operational Units before Fielding New Capabilities*, GAO-09-856 (Washington, D.C.: Sept. 16, 2009).

only 7 of the 45 exercises we analyzed included live combatant commands, regional operations centers, and tactical units participating together. DOD officials stated that realistic training for the BMDS should include multiple live elements operated by service personnel—rather than simulations—and multiple tiers interacting in the same training scenario, but there are no clear requirements for how much integrating training would be sufficient. GAO's guide for assessing training programs states that a training program should include the development of an overall training strategy.[12] However, DOD has not developed an overall training strategy for the BMDS because it has not identified an entity to be responsible for doing so. Without a clear strategy for conducting integrating ballistic missile defense training across and among commands and elements, DOD faces the risk that organizations that need to work together may have limited opportunities to realistically interact prior to an actual engagement.

DOD Is Conducting Some Ballistic Missile Defense Integrating Training but Gaps May Exist

We analyzed 45 ballistic missile defense exercises that occurred in fiscal years 2009 and 2010 and found examples of integrating training that occurred across and among tiers. The combatant commands conduct major exercises for training their staffs and assigned forces in their mission-essential tasks—of which ballistic missile defense is one—and hosted 21 exercises that included ballistic missile defense in fiscal years 2009 and 2010. These exercises often included live participation from regional operations centers and some live tactical units. At the tactical level, the Navy requires ships to train at least every 6 months in an integrated ballistic missile defense exercise that always includes live Aegis ballistic missile defense ships and often includes cross-element training with live Patriot units. These exercises also occasionally included integrating training with the Command, Control, Battle Management, and Communications and Ground-based Midcourse Defense elements, and often included live participation from regional operations centers. In addition, U.S. Strategic Command's Joint Functional Component Command for Integrated Missile Defense sponsors integrating training events synchronized with MDA equipment tests. Although these events focus on testing they also provide integrating training opportunities for combatant command staff, regional operations centers, and tactical units.

[12] GAO, *Human Capital: A Guide for Assessing Strategic Training and Development Efforts in the Federal Government*, GAO-04-546G (Washington, D.C.: Mar. 1, 2004).

While DOD is performing some integrating BMDS training, our analysis of ballistic missile defense exercises showed some gaps. For example, we found limited live participation of BMDS tactical units and only 10 of the 45 exercises included more than two tiers. Specifically, only 7 of the 45 exercises that we analyzed included live combatant commands, regional operations centers, and tactical units, and only 1 of those also included all four tiers. Moreover, as can be seen in table 2, live participation of BMDS tactical units was limited mostly to Aegis and Patriot. (More detailed results of GAO's ballistic missile defense exercise analysis are provided in app. II.)

Table 2: Summary of BMDS Integrating Training Exercises Conducted in Fiscal Years 2009 and 2010

Exercise sponsor	Number of exercises	Extent of integration
Combatant commands	21	Live participation was typically limited to interaction with regional operations centers. Elements were usually simulated. Only one third of the exercises included more than one live combatant command.
Regional operations centers	8	Live participation was limited to interaction with tactical units. Few elements participated live.
Tactical units	16	Live participation of tactical units was typically limited to Aegis and Patriot. Live participation was typically limited to interaction with regional operations centers.
Total	**45**	

Source: GAO analysis of combatant command and service exercise data.

Note: Although the detailed results of the BMDS exercises are classified, the above table is an unclassified summary of the exercises.

Although most of the exercises we analyzed included the participation of either regional operations centers or tactical units, DOD officials at several organizations stated that more training focused on integrating those two tiers is necessary in order to achieve realistic training as identified in DOD policy. Officials also identified the need for an affordable, scalable, distributed, and fully integrated training capability that would allow for more integrating training with live participants within and across the tiers. To address this need, officials indicated DOD is planning a more robust missile mission training capability to enable integrating training through the tiers, but officials said this capability is early in development and, at this time, does not include tactical-level BMDS elements.

DOD Has Not Developed a Strategy for Integrating BMDS Training

GAO's guide for assessing training programs states that a training program should include the development of an overall training strategy and an organization that is held accountable for achieving training goals.[13] Additionally, DOD officials stated that increased frequency of integrating training would be beneficial but there are no clear requirements for how much integrating training would be sufficient. However, DOD has not developed such a training strategy for the holistic BMDS that specifies clear requirements and standards for integrating training because DOD has not clearly designated an entity to be responsible for integrating ballistic missile defense training across and among combatant commands and services and provided the entity with the authority to do so.

Individual combatant commands and services have training responsibilities within their own organizations but generally do not establish training requirements for other organizations. Table 3 below shows training responsibilities of various DOD organizations.

Table 3: Training Responsibilities of Various DOD Organizations

DOD organization	Responsible for:
Joint Staff	Formulating policies for joint training
U.S. Strategic Command	Synchronizing planning for global ballistic missile defense operations
U.S. Joint Forces Command	Assisting combatant commands and services in preparing for joint operations
Regional Combatant Commands	Training their staffs and assigned forces
Missile Defense Agency	Providing new equipment training, individual training for the Ground-based Midcourse Defense element, and all training for the Command, Control, Battle Management, and Communications element.
Services	Individual, unit, and sustainment training

Source: GAO summary of DOD documents.

The training responsibilities of these DOD organizations do not clearly identify an organization with responsibility for integrating ballistic missile defense training across and among tiers. For example, although U.S. Strategic Command is responsible for synchronizing planning for missile defense, officials explained that the command is only responsible for synchronizing planning for operations and it does not have the responsibility or authority for integrating ballistic missile defense training. U.S. Joint Forces Command is designated as the joint force trainer, but officials explained their role is to support combatant commands' joint

[13] GAO-04-546G.

training by providing the technical capabilities for different organizations to train together, not to set training requirements for any particular mission, such as ballistic missile defense.[14] MDA provides initial training for new and upgraded elements, most of the training for the Ground-based Midcourse Defense element and all training for the Command, Control Battle Management and Communications element. MDA is not responsible for developing training requirements for other DOD organizations. In addition, Joint Staff guidance for joint training charges the Chairman with responsibility for formulating policies for joint training and requires the development of training plans, but officials said the training policy generally does not include setting training requirements for any particular mission.

DOD recognizes the need for a cross-cutting group to examine BMDS training issues, but its latest effort is structured differently from other groups created to establish joint training requirements and as a result may not be as effective. In 2010, DOD organized a group, called the Ballistic Missile Training and Education Group. According to the group's draft charter, the department does not have a coordinated ballistic missile defense training and education approach "that will ensure [an] effective synergistic employment of assets…" In addition, the draft charter sets out the group's goals which include identifying, evaluating, and coordinating ballistic missile defense training requirements and, in coordination with key ballistic missile defense stakeholders, increasing the effectiveness of ballistic missile defense training by promoting the development and implementation of a standardized training program. However, the draft charter does not indicate that the group itself will have the authority to set ballistic missile defense training requirements and standards, or that its members will have the authority to speak on behalf of the organizations they represent. Instead, the group is expected to review issues that members nominate and make recommendations for improving training to the group's senior leadership—comprised of U.S. Strategic Command, U.S. Joint Forces Command, and MDA—which may, in turn, raise issues to the Missile Defense Executive Board.[15] At a March 2011 meeting, the

[14] U.S. Joint Forces Command officials are uncertain how the proposed disestablishment of U.S. Joint Forces Command will affect the Ballistic Missile Defense Training and Education Group.

[15] DOD created the Missile Defense Executive Board in 2007 to recommend and oversee implementation of strategic policies, plans, program priorities, and investment options. The board is supported by four committees: Policy and Oversight; Operational Forces; Program, Acquisition, and Budget Development; and Test and Evaluation.

group identified several issues such as improving distributed training capabilities and training devices. However, the group has not identified the need to develop a strategy for integrating training across and among tiers that would include training requirements and standards. Although DOD officials have expressed confidence in this group, the group is not quite a year old, is still finalizing its charter and its effectiveness in identifying and resolving training issues is unproven. Further, it is not clear that any of the three organizations comprising the group's senior leadership would have the authority to develop an integrating training strategy or requirements that all tiers must meet. In similar instances, DOD has designated a lead organization with clearly defined responsibilities and the authority to establish joint training requirements. For example, the Joint Staff has issued instructions for Joint Interface Training and for joint training on the Global Command and Control System. In both instances, the instructions defined responsibilities and provided the designated groups with the authority to develop and implement training requirements.

Without a clear strategy that specifies requirements and standards for integrating ballistic missile defense training across and among the commands involved, DOD may have difficulty identifying and resolving training gaps. The lack of a strategy also means that some organizations that are developing a capability to increase live participation in integrating training are doing so without guidance or goals on which organizations should participate and at what frequency—factors that may influence the design and capacity of the training capability. In addition, different organizations may develop varying training requirements and priorities for integrating their training programs with other organizations. Further, without a strategy, DOD runs the risk that organizations that need to work together may have limited opportunities to realistically interact prior to an actual engagement and this risk may increase over the next few years as more elements are fielded.

Ballistic Missile Defense Training Funds Are Dispersed and Total Resources Not Easily Identified

DOD lacks visibility over the total resources that may be needed to support ballistic missile defense training since the funds are currently dispersed across MDA and the services, and some of the services' budget estimates do not separately identify ballistic missile defense training. An additional complication is that agreements between MDA and the services on funding responsibilities and life-cycle cost estimates—which include training—have not been completed and approved for all elements.[16] We compiled budget documents and data from various sources and estimated about $4 billion is planned to support ballistic missile defense training from fiscal years 2011 through 2016 but this number could vary as additional capabilities are added. We also found examples of gaps between training requirements and budgeted resources, such as a $300 million requirement in the THAAD Program that is not included in MDA's budget plans. DOD and MDA policies identify the need to complete cost estimates and funding responsibilities for elements as they are developed. However, DOD has not yet identified the total resources necessary to support ballistic missile defense training and has not determined the long-term funding responsibilities because there are no procedures or firm deadlines in place requiring that MDA and the services agree on funding responsibilities and complete training cost estimates before elements are fielded. As a result, DOD and congressional decision makers do not have a full picture of the resources that will be needed over time and risk training gaps.

Ballistic Missile Defense Training Funds are Dispersed Across Multiple Organizations and Difficult to Identify

DOD's budget and Future Years Defense Program include funds for ballistic missile defense training, but funds are dispersed across MDA and multiple accounts across the services, making it difficult for DOD to identify the total training resources. Currently, MDA's budget supports new equipment training for BMDS elements, the portion of combatant command exercises that include ballistic missile defense events, general ballistic missile defense education courses, all training for the Command, Control, Battle Management, and Communications element, and most

[16] We reported earlier this year that six of MDA's life-cycle cost baselines had insufficient evidence to be a high-quality cost estimate. See GAO, *Missile Defense: Actions Needed to Improve Transparency and Accountability*, GAO-11-372 (Washington, D.C.: Mar. 24, 2011).

training for the Ground-based Midcourse Defense element.[17] The Army and Navy budgets support individual, unit, and sustainment training for their elements, and facilities to support this training.[18]

We compiled available budget documents and data from MDA and the services and estimated about $4 billion is planned to support ballistic missile defense training from fiscal years 2011 through 2016. While we were able to compile an approximate budget estimate, some of the service's ballistic missile defense specific training budgets are not easily identifiable since some ballistic missile defense training for the services is provided and funded as part of a more comprehensive training program and some training budget estimates were not able to be identified. For example, the budget estimates to support multimission elements like Aegis and Patriot include training for ballistic missile defense in addition to training for missions other than ballistic missile defense. Furthermore, an Army official was unable to provide budget estimates for the AN/TPY-2 radar from fiscal years 2011 to 2016 because they only recently began using the Army's budget development system and have not yet estimated costs across the Future Years Defense Program.[19] Table 4 below summarizes GAO's compilation of MDA and the services' budget estimates for training.

[17] As elements transition from MDA to a lead service, the lead service begins to assume responsibility for operating, supporting, and funding BMDS elements. However, as the materiel developer of the BMDS, MDA retains some responsibilities for combat support, including some training responsibilities.

[18] The elements for which the Air Force is lead service do not require significant ballistic missile defense specific training, but the Air Force does support a Missile Defense Warning course and some training to integrate ballistic missile defense operations into the air operation centers.

[19] For fiscal year 2012, an Army official was able to identify approximately $56 thousand for AN/TPY-2 individual training courses, and approximately $227 thousand to support Army and MDA Ground-based Midcourse Defense individual and unit training and accreditation. The Army official also identified approximately $3.6 million in contractor and civilian manpower costs to support AN/TPY-2 and Ground-based Midcourse Defense training in fiscal year 2012.

Table 4: GAO's Compilation of MDA, Army, Navy, and Air Force Budget Estimates for Ballistic Missile Defense Training

(Dollars in Millions)	
MDA and service budget estimates	**Total FY 2011-2016**
MDA training budget[a]	
Ballistic Missile Defense Training and Education Center	$37.7
Combatant Command Exercises	$154.4
Command, Control, Battle Management and Communications	$34.7
Ground-based Midcourse Defense	$70.5
THAAD	$67.8
Aegis	$33.1
THAAD Simulators	$1,921.8
Subtotal MDA	$2,320.0
Army training budget[b]	
Patriot Advanced Capability-3	$1,379.8
THAAD	$313.6
Subtotal Army	$1,693.4
Air Force training budget	
Advanced Missile Defense Warning Course	$4.0
Air Operations Center Integrated Air and Missile Defense Training	$2.5
Subtotal Air Force	$6.5
Navy training budget[c]	
Aegis	$159.5
Subtotal Navy	$159.5
Total training budget estimates	**$4,179.3**

Source: GAO analysis of DOD data.

Note: Amounts may not total because of rounding.

[a]The MDA training budget includes funding for development and acquisition of training aids, devices, and simulators for the THAAD element.

[b]The Army's training budget includes funds for the THAAD individual training courses currently offered and establishing the THAAD school. The Army estimates that unit training for a single battery will cost $583,843 in fiscal year 2012 and DOD plans to have a total of nine batteries activated by fiscal year 2018. However, we did not include these estimates in our analysis since the timing for unit training is uncertain. Funds for the Patriot element include individual, unit, and sustainment training and include training facilities. However, funds for Patriot training also include training not specific to ballistic missile defense.

[c]Since Aegis training includes training for missions in addition to ballistic missile defense, such as anti-air warfare, the Navy's budget does not identify funding to perform only Aegis ballistic missile defense training.

In addition to the limitations discussed above, funding responsibilities may become increasingly dispersed as DOD transitions responsibilities for the elements from MDA to the services. For example, the Army's budget for the THAAD element will increase over time as the Army assumes full responsibility for individual training in fiscal year 2015. Also, if a lead service is designated responsible for the Command, Control, Battle Management, and Communications element, some of the training and funding responsibilities for that element would likely transfer from MDA to the lead service.

MDA and the Services Have Not Agreed on Funding Responsibilities and Cost Estimates That Could Better Inform Training Budgets

Another factor that complicates estimating the resources to support ballistic missile defense training is that MDA and the services have not fully identified funding responsibilities and life-cycle cost estimates for each of the BMDS elements. MDA's Acquisition Directive[20] identifies the need to develop life-cycle cost estimates—which include training—for the elements at certain phases of development.[21] The *Strategic Plan for the Next Generation of Training for the Department of Defense*[22] developed by the Office of the Under Secretary of Defense for Personnel and Readiness highlights the importance of aligning resources to meet training goals. We found that eight of the nine BMDS elements included in our analysis have been fielded,[23] yet planning documents detailing the transition of training responsibilities and life-cycle cost estimates—which include training costs—have not been fully developed and approved for about half of the fielded elements with a designated lead service. In addition, three of the completed agreements do not include service-specific funding to support training. As a result, DOD does not have element-specific agreements or approved training cost estimates for MDA and the services to use in budget development.

In addition to the overarching memoranda of agreement, which include a general description of MDA and service roles and responsibilities for the

[20] Missile Defense Agency, *Acquisition Management: MDA Directive 5010.18*, (Washington, D.C., Apr. 29, 2011).

[21] Life-cycle costs are the total costs to the government for a program over its full life, consisting of research and development, production, operations, maintenance, and disposal costs.

[22] Office of the Under Secretary of Defense (Personnel and Readiness), *Strategic Plan for the Next Generation of Training for the Department of Defense* (Sept. 23, 2010).

[23] See table 1 above, which shows when each element was initially fielded.

elements, DOD intends for MDA and the services to develop specific agreements for each element that would include funding agreements with details on MDA and the services' funding responsibilities for training as the element transitions from MDA to the service. However, MDA and the services have had difficulty completing these element-specific agreements, and to date have only fully completed agreements for three out of seven BMDS elements requiring element-specific agreements.[24] For example, officials from the Office of the Secretary of Defense for Acquisition, Technology, and Logistics stated that MDA and the Army have had difficulty agreeing on funding for the AN/TPY-2 radar and have delayed the completion of the agreement until the Missile Defense Executive Board issues further guidance. Furthermore, while officials from the Office of the Secretary of Defense for Acquisition, Technology, and Logistics are responsible for monitoring the completion of the agreements and have identified very general deadlines (by fiscal year) to complete them, officials stated that the completion of the agreements is not schedule driven. Officials also stated that while the remaining element-specific agreements are in staffing, in some cases the services and MDA have not agreed on completion times and that they are uncertain when the agreements will be finalized.

The overarching memoranda of agreement also identify the need for MDA and the services to complete joint life-cycle cost estimates for each of the elements, which would include training cost estimates. MDA and the Army have signed an agreement explaining how they will work together to develop operations and support cost estimates to inform their budgets for the THAAD, Ground-based Midcourse Defense, and AN/TPY-2 elements.[25] However, according to Army officials, some cost estimates are still in development and have not been approved by the Army Cost Review Board and none of the operations and support cost estimates—

[24] Only seven elements require element-specific agreements because the Command, Control, Battle Management and Communications element has not had a lead service designated and Patriot has transferred to the Army. There are two agreements for Aegis Ballistic Missile Defense—one for the ship and one for the missile. MDA and the Navy have completed the agreement for the Aegis missile and have not completed the agreement for the ship.

[25] According to the DOD, Office of the Secretary of Defense, Cost Analysis Improvement Group, *Operating and Support Cost-Estimating Guide* (October 2007), operating and support cost estimates for training should include the following: individual and unit training, training devices/simulator operations, instructors, training support personnel, course support, course materials, and all costs of trainees.

including training cost estimates—have been reviewed by DOD's Cost Assessment and Program Evaluation office.[26] For example, Army officials stated that the Army Cost Review Board has not approved the estimates for THAAD, Ground-based Midcourse Defense, and forward-based AN/TPY-2 radar elements. Officials stated that while the methodology behind the MDA and Army cost estimates is accurate, the Army does not agree with some assumptions on which the cost estimates are based. For example, Army officials said that the most recent THAAD estimate did not include unit training costs to relocate THAAD batteries, yet that estimate was used to inform the Army's budget request for THAAD operations. Furthermore, DOD officials confirmed that they only recently began developing operations and support cost estimates with the Navy for the Aegis ballistic missile defense element.

DOD has not yet identified the total resources necessary to support ballistic missile defense training and has not determined the long-term funding responsibilities because there are no procedures or firm deadlines in place to ensure that either the element-specific agreements or life-cycle cost estimates—to include training—be completed before elements are fielded or in time to inform budget development. Without completed memoranda of agreement or cost estimates for supporting MDA and service ballistic missile defense training, there is no transparency over the total resources that DOD may need to fully support ballistic missile defense training. As a result, DOD is at risk of training gaps that may prevent the services and combatant commands from meeting their training requirements. For example, while the Army and MDA are working to prioritize funding to address training for the THAAD element, Army officials identified a $308.6 million discrepancy between MDA's funding and the Army's documented equipment requirements to support individual and unit training. Army officials said that without this equipment, they will have difficulty keeping up with the demand for individual and unit training. Specifically, some critical tasks that would normally be trained at the institution would need to be performed by the units on actual tactical equipment rather than training devices, which

[26] The agreement between the Army and MDA for preparing and approving joint operations and support cost estimates explains that the Army Cost Review Board will review the estimate and, if the review is favorable, recommend to the Assistant Secretary of the Army for Financial Management and Comptroller that the Army accept the cost estimate. This agreement also explains that the Army and MDA will request that the Director of Cost Assessment and Program Evaluation conduct an independent cost estimate.

would result in additional wear and tear on tactical equipment and increase overall training costs. In addition, the Army has identified a $960,000 requirement to upgrade training materials to support sensor manager training for the AN/TPY-2 radar. However, MDA has not funded this requirement, and an Army official indicated that without upgraded training materials, properly trained crews may not be available to operate the radar. Without MDA and service cooperation to develop complete and transparent ballistic missile defense training cost estimates, decision makers do not have the necessary visibility to budget for ballistic missile defense training or identify and address training shortfalls, an issue that may become more problematic as additional elements are fielded. Since training to support ballistic missile defense has been identified as a high priority within the department, the lack of transparency in the funds needed to support ballistic missile defense training hinders DOD's ability to assess competing priorities and decide how to allocate scarce resources to meet training goals.

Conclusions

Defending against ballistic missile attacks requires quick responses and an integrating training strategy is important to connect seams where commands, tiers, or elements must work together. However, there are no DOD requirements and standards for integrating training across and among all of the tiers. Although individual organizations are taking some initial steps, training across and among tiers is still relatively infrequent. In similar instances, DOD has issued guidance to designate an organization with the responsibility and authority for establishing joint training requirements. However, DOD has not designated an organization with the responsibility and authority to develop a strategy that would include specific requirements and standards for integrating training across and among all of the tiers for ballistic missile defense. As a result, the department runs the risk that personnel may have had limited opportunities to interact across the training tiers and elements under realistic conditions prior to an actual ballistic missile defense engagement. A number of DOD organizations have identified the need for an affordable, scalable, distributed, and fully integrated training capability that would develop the capabilities necessary for all tiers to experience realistic training at a frequency to prepare them for ballistic missile defense operations. Without an entity responsible for developing an integrating training strategy, the department's ability to develop requirements and standards for integrating training across and among all of the tiers, and to assess the advantages and disadvantages of a standardized approach for improving integrating training capabilities may be hindered.

Given that DOD has identified ballistic missile defense as a high-priority mission area and has expended substantial resources to develop the BMDS, it is important that funding for training be clearly and easily identified to ensure that training priorities are being met and budgets are aligned to support training requirements and address any training shortfalls. No full picture of the total service and MDA BMDS training budget exists since funding is dispersed across the department and there is no procedure or deadline mandating that funding agreements and training cost estimates be completed and approved in time to inform annual budget development. As a result, DOD and congressional decision makers lack visibility over the ballistic missile defense training budget to assess whether budgeted resources are adequate to support ballistic missile defense training and ensure there are no significant training gaps. Until the department addresses these challenges, DOD will likely face increasing risks over time to its ability to provide necessary integrating training as more elements are developed and fielded.

Recommendations for Executive Action

We recommend that the Secretary of Defense take the following three actions:

To enhance DOD's ability to identify and resolve issues in integrating ballistic missile defense training across and among combatant commands and services and to improve training realism, we recommend that the Secretary of Defense, in consultation with the Under Secretary of Defense for Personnel and Readiness and the Chairman of the Joint Chiefs of Staff, issue guidance that:

- designates an entity to be responsible for integrating training across and among combatant commands and elements and provide that entity with the authority to develop an overall ballistic missile defense training strategy which includes specific requirements and standards for integrating training and identifying and resolving any gaps in capabilities to enhance integrating training across and among all tiers (or combatant commands and elements).

To improve the transparency of the resources to support ballistic missile defense training requirements and to inform budget development, we recommend that the Secretary of Defense direct the Secretaries of the Army, Navy, and Air Force and the Director of the Missile Defense Agency to:

- set a firm deadline to complete training cost estimates and element-specific agreements for elements already fielded and establish procedures that require the training cost estimates and element-specific funding agreements delineating funding responsibilities

between MDA and the services be completed before additional elements are fielded; and
- establish procedures that require annual development and reporting of the total BMDS training budget (i.e., all Missile Defense Agency and service costs for individual, unit, and sustainment training and combatant command and service exercise costs).

Agency Comments and Our Evaluation

In written comments on a draft of this report, DOD concurred with one recommendation and partially concurred with two recommendations. Although DOD generally concurred with our recommendations, DOD's response did not include specifics about when it intended to complete actions to implement these recommendations. Considering that DOD has identified ballistic missile defense as a high-priority mission area, we believe it is important that DOD take action as soon as possible. After we received DOD's comments, the department completed its security review and determined that this report is unclassified and contains no sensitive information. DOD's comments are reprinted in their entirety in appendix III. DOD also provided technical comments, which we incorporated into the report as appropriate.

DOD concurred with our recommendation that DOD issue guidance that designates an entity to be responsible for integrating training across and among combatant commands and elements and provide that entity with the authority to develop an overall ballistic missile defense training strategy. The department further stated that Office of the Under Secretary of Defense for Personnel and Readiness and U.S. Strategic Command, with the assistance of the Joint Staff will provide the policy and required advocacy for the development of an integrated training strategy for ballistic missile defense. Although DOD concurred with this recommendation and stated its intention to issue policy for developing an integrating training strategy, the department did not state when it intended to do so. Since defending against ballistic missile attacks requires a quick response, it is important that DOD develops an integrating training strategy to connect seams where commands, tiers, or elements must work together. Therefore, we believe that DOD should issue this policy as soon as possible.

DOD partially concurred with our recommendation that the Secretaries of the Army, Navy, and Air Force and the Director of the Missile Defense Agency set a firm deadline to complete training cost estimates and element-specific agreements for elements already fielded and establish procedures that require the completion of training cost estimates and element-specific funding agreements delineating funding responsibilities

between MDA and the services before additional elements are fielded. In its comments, DOD stated that new ballistic missile defense capabilities are essential to defense and must not be delayed. The department acknowledges the benefit of establishing training cost estimates but believes that these estimates and funding agreements can be developed in parallel with the fielding of additional capabilities. Although DOD partially concurred, DOD did not state that it would set a firm deadline to implement the recommendation. DOD generally requires that weapons systems complete life-cycle cost estimates—including training cost estimates—prior to a system being fielded. As we noted in our report, DOD has not completed cost estimates or funding agreements. Further, we reported that MDA and the services have had difficulty completing the agreements for each element that would include details on MDA and the services' funding responsibilities as the elements transition from MDA to the services. Without completed and approved training cost estimates to inform the funding agreements and annual budget development, there is no clear identification of the resources that DOD may need to support ballistic missile defense training and DOD is at risk of training gaps. In fact, we noted examples of discrepancies between funding and training requirements. Given that DOD has identified ballistic missile defense as a high-priority mission area, has had difficulty completing cost estimates and funding agreements in the past, and there are already examples of some funding gaps, we continue to believe that DOD should establish a firm deadline to ensure that training cost estimates and element-specific agreements are completed before additional elements are fielded.

Finally, DOD partially concurred with our recommendation that the Secretaries of the Army, Navy, and Air Force and the Director of the Missile Defense Agency establish procedures that require annual development and reporting of the total BMDS training budget (i.e., all Missile Defense Agency and service costs for individual, unit, and sustainment training and combatant command and service exercise costs). In its comments, DOD stated that the department defines total ballistic missile defense training costs as those direct or incremental ballistic missile defense system training costs associated with the fielding and sustaining element mission readiness for ballistic missile defense capabilities. DOD further stated that the Office of the Under Secretary of Defense for Personnel and Readiness will work with the services and the Missile Defense Agency to develop policy for capturing and reporting total ballistic missile defense training costs as defined above. As we stated in our report, no full picture of the total service and MDA BMDS training budget exists since funding is dispersed across the department and there is no procedure or deadline mandating that funding agreements and

training cost estimates be completed and approved in time to inform annual budget development. As a result, DOD and congressional decision makers do not have a full picture of the resources to inform budget development and risk training gaps. Considering that funding for training could face significant budget pressures amid the department's competing demands for current operations, acquisitions, and personnel expenses, we continue to believe it is important that DOD implement the policy for developing and reporting cost estimates for ballistic missile defense training as soon as possible.

We are sending copies of this report to appropriate congressional committees, the Secretary of Defense, the Under Secretary of Defense for Personnel and Readiness, the Chairman of the Joint Chiefs of Staff, the combatant commands, the Secretaries of the Army, Navy, and Air Force, and the Director of the Missile Defense Agency. In addition, this report will be available at no charge on GAO's Web site at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (404) 679-1816 or pendletonj@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix IV.

John H. Pendleton
Director
Defense Capabilities and Management

List of Committees

The Honorable Carl Levin
Chairman
The Honorable John McCain
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Daniel K. Inouye
Chairman
The Honorable Thad Cochran
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Howard P. “Buck” McKeon
Chairman
The Honorable Adam Smith
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable C.W. Bill Young
Chairman
The Honorable Norman D. Dicks
Ranking Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Appendix I: Scope and Methodology

To determine the extent to which the Department of Defense (DOD) has developed a plan for integrating ballistic missile defense training across and among commands and multiple elements we reviewed combatant command and service training plans and assessed whether these plans addressed ballistic missile defense training. To determine the extent to which DOD has identified training roles, responsibilities, and commensurate authorities, we assessed DOD, combatant command, and service instructions, policies, and training plans to identify where training roles, responsibilities, and authorities were clearly identified and whether these documents clearly identified roles, responsibilities, and authorities for integrating training across and among commands and services. Finally, we discussed our results with DOD officials to corroborate our analysis and discussed any areas where responsibilities may not be clearly identified.

To quantify the extent to which the Ballistic Missile Defense System, (BMDS) training is integrated horizontally across the combatant commands and elements and vertically from the combatant commands down through the elements (i.e. through all tiers) we first developed a standard definition of the training tiers using the description in the Joint Functional Component Command for Integrated Air and Missile Defense's Fiscal Year 2010 through 2011 Annual Training Plan as a guide and confirmed the definitions with various DOD commands. Next, we gathered and analyzed information on 45 training exercises that included ballistic missile defense and were conducted during fiscal years 2009 and 2010. We included all of the exercises led by combatant commands, operations centers, and the services within this time frame. We also included an average representation of the participants in weekly training provided by the Joint Staff to officials at tier one.[1] For each exercise, we gathered information to identify participants at each tier and whether each participant was live or simulated. We summarized the data and corroborated the results with the commands that provided the information.

To determine the extent to which DOD has identified and budgeted for the resources to support ballistic missile defense training, we gathered and analyzed available training budget documents and data provided by the Missile Defense Agency (MDA) and the services to support ballistic missile defense training from fiscal years 2011 through 2016 to include

[1] Since information was not available on all of these training events, we worked with DOD officials to document live and simulated participants that typically participated in this event.

budget estimates for training in schools, exercises and for facilities such as simulators. To determine the funding for Patriot unit training, Army officials provided the average estimated training cost for one unit that the Army uses to develop its budget and we multiplied that amount by the total number of units across fiscal years 2011 to 2016. We documented instances where the services could not identify training resources specific to ballistic missile defense, and reported that these budget estimates are to support training for missions in addition to ballistic missile defense or instances that ballistic missile defense specific budget estimates were unavailable. We also obtained documentation from MDA and the services on their actual costs to support ballistic missile defense training in fiscal year 2010. We interviewed DOD, combatant command, and service officials to corroborate our compilation of available training budget estimates, and to identify areas where there may be a mismatch or shortfall between training requirements and budget estimates. We interviewed MDA and service officials to determine whether element-specific annexes and joint life-cycle cost estimates for each of the elements have been completed and approved. To ensure the reliability of our data we provided the tables showing the estimated budgeted amounts for ballistic missile defense training to DOD and service officials for review. Furthermore, to assess the reliability of the computer-processed data provided by the Army to support their ballistic missile defense training budgets, we interviewed knowledgeable officials about the data and internal controls on the system that contains them. We determined that the data were sufficiently reliable for the purposes of this audit.

We conducted this performance audit in accordance with generally accepted government auditing standards from July 2010 to July 2011. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

We obtained appropriate data and documentation and interviewed officials from the following organizations:

Department of Defense and Joint Staff

- Office of the Secretary of Defense
  - Office of the Under Secretary of Defense for Personnel and Readiness
  - Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics

  - Office of the Secretary of Defense (Comptroller)
  - Office of the Secretary of Defense for Cost Assessment Program Evaluation
- United States Joint Forces Command
- United States Strategic Command and its Joint Functional Component Command for Integrated Missile Defense
- United States Pacific Command
- United States Northern Command
- United States Central Command
- United States European Command
- Joint Staff J3–Operations Directorate
- Joint Staff J7–Operational Plans and Joint Force Development Directorate
- Joint Staff J8–Joint Integrated Air and Missile Defense Organization
- Missile Defense Agency

Department of the Army

- Army G-3/5/7–Training Directorate
- Office of the Deputy Assistant Secretary of the Army for Cost and Economics
- Office of the Assistant Secretary of the Army for Acquisition, Logistics, and Technology
- Army Training and Doctrine Command
- Army Forces Command
- Fires Center of Excellence and Air Defense Artillery School
- 32nd Army Air and Missile Defense Command
- 94th Army Air and Missile Defense Command
- Army Space and Missile Defense Command
- 100th Missile Defense Brigade

Department of the Navy

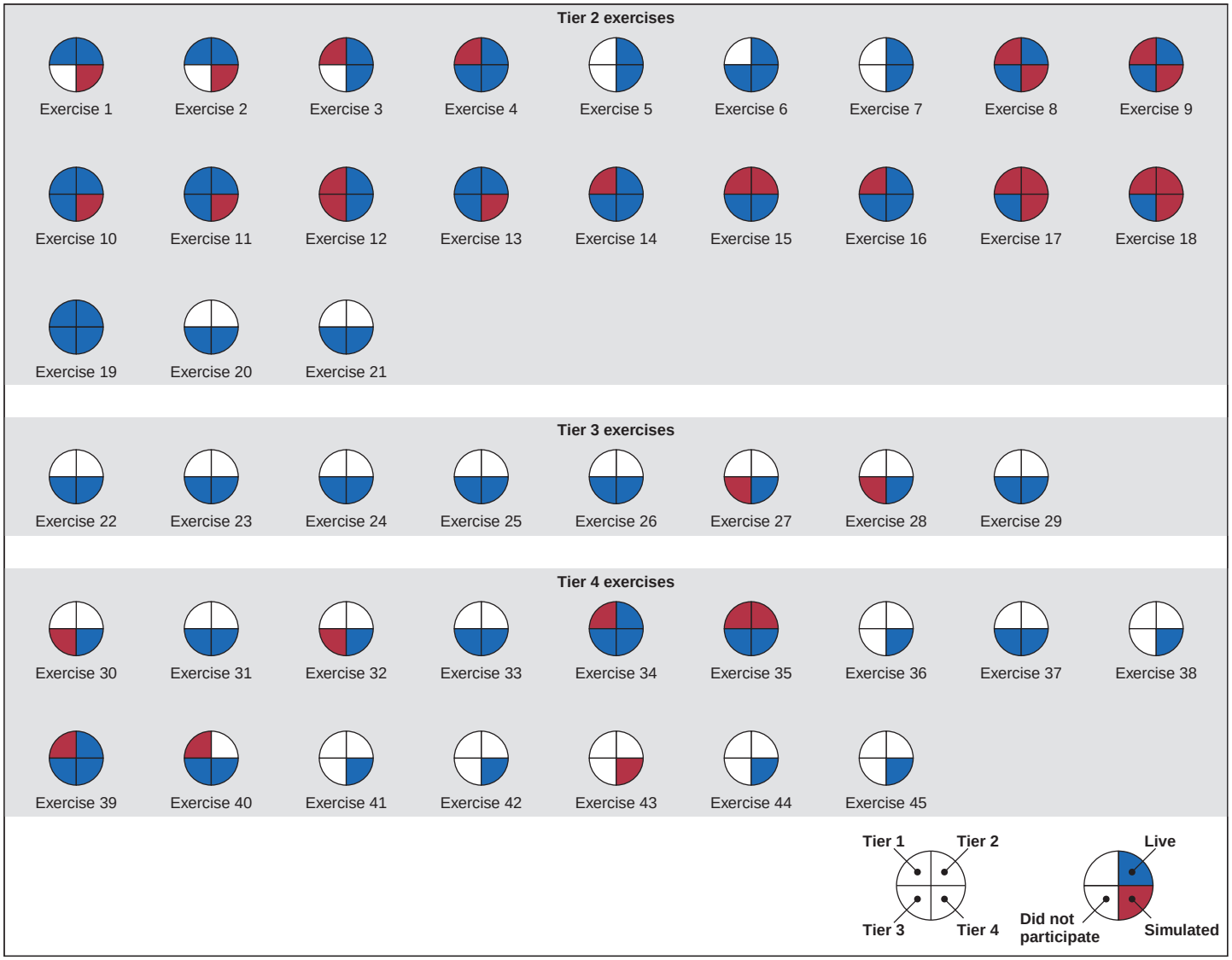
- Office of the Chief of Naval Operations, N86–Surface Warfare Division
- Naval Sea Systems Command
- United States Fleet Forces Command
- U. S. Surface Forces Atlantic
- Navy Air and Missile Defense Command
- Center for Surface Combat Systems
- Navy 3rd Fleet
- Navy 7th Fleet Maritime Operations Center
- U. S. Pacific Fleet

Department of the Air Force

- Air Force Headquarters, Office of the Deputy Chief of Staff for Operations, Plans, and Requirements
- Air Combat Command
- Air Force Space Command
- 613th Air Operations Center

Appendix II: GAO's Analysis of Ballistic Missile Defense Exercises

Figure 2: Integrating Training Among the Tiers in Ballistic Missile Defense Exercises



Source: GAO analysis of DOD data.

Figure 3: Integrating Training Across the Tiers in Ballistic Missile Defense Exercises

	Tier 1	Tier 2	Navy Tier 3	Air Force Tier 3	Army Tier 3	Tier 4 elements
	Tier 2 exercises *Live* *Simulated*					
Exercise 1	3 1	1 0	0 0	0 0	0 0	0 9
Exercise 2	2 2	1 0	0 0	0 0	0 0	0 9
Exercise 3	0 4	2 0	0 0	0 0	0 0	3 6
Exercise 4	0 4	2 0	1 0	3 0	1 0	4 5
Exercise 5	0 0	5 0	0 0	0 0	0 0	1 0
Exercise 6	0 0	1 0	0 0	1 0	0 0	1 0
Exercise 7	0 0	2 0	0 0	0 0	0 0	1 0
Exercise 8	0 6	1 5	1 0	0 1	0 1	0 2
Exercise 9	0 6	1 5	1 0	0 1	0 1	0 7
Exercise 10	1 3	5 1	1 0	1 0	0 1	0 8
Exercise 11	1 3	5 1	1 0	1 0	1 0	0 8
Exercise 12	0 1	1 2	0 1	0 1	0 0	2 3
Exercise 13	1 1	1 2	1 0	1 0	0 1	0 3
Exercise 14	0 2	1 1	1 0	1 0	1 0	5 0
Exercise 15	0 2	0 1	1 0	1 0	1 0	1 3
Exercise 16	0 2	1 0	1 0	1 0	1 0	3 0
Exercise 17	0 2	0 1	1 0	1 0	1 0	0 2
Exercise 18	0 2	0 1	1 0	1 0	1 0	0 2
Exercise 19	1 3	3 0	0 0	1 0	0 0	3 5
Exercise 20	0 0	0 0	1 0	1 0	0 0	2 2
Exercise 21	0 0	0 0	1 0	1 0	0 0	2 2

Figure 3: Continued

	Tier 1		Tier 2		Navy Tier 3		Air Force Tier 3		Army Tier 3		Tier 4 elements	
Tier 3 exercises	***Live***	***Simulated***										
Exercise 22	0	0	0	0	1	0	1	0	0	0	2	2
Exercise 23	0	0	0	0	1	0	1	0	0	0	2	2
Exercise 24	0	0	0	0	1	0	1	0	0	0	2	2
Exercise 25	0	0	0	0	1	0	1	0	0	0	2	1
Exercise 26	0	0	0	0	0	0	1	0	0	0	2	1
Exercise 27	0	0	0	0	0	0	0	1	0	0	1	2
Exercise 28	0	0	0	0	0	0	0	1	0	0	1	1
Exercise 29	0	0	0	0	0	0	1	0	0	0	1	2
Tier 4 exercises												
Exercise 30	0	0	0	0	0	2	0	1	0	0	1	1
Exercise 31	0	0	0	0	1	1	0	0	0	1	1	1
Exercise 32	0	0	0	0	0	2	0	0	0	1	1	1
Exercise 33	0	0	0	0	1	2	0	0	0	1	1	2
Exercise 34	0	3	3	0	2	0	1	0	1	0	4	4
Exercise 35	0	2	0	1	2	0	2	0	1	0	1	0
Exercise 36	0	0	0	0	0	0	0	0	0	0	1	0
Exercise 37	0	0	0	0	2	0	1	0	0	0	2	0
Exercise 38	0	0	0	0	0	0	0	0	0	0	1	0
Exercise 39	0	4	3	0	2	0	1	0	1	0	4	4
Exercise 40	0	2	0	0	3	0	0	2	0	0	1	0
Exercise 41	0	0	0	0	0	0	0	0	0	0	1	1
Exercise 42	0	0	0	0	0	0	0	0	0	0	2	0
Exercise 43	0	0	0	0	0	0	0	0	0	0	0	1
Exercise 44	0	0	0	0	0	0	0	0	0	0	1	0
Exercise 45	0	0	0	0	0	0	0	0	0	0	2	1

Source: GAO analysis of DOD data.

Appendix III: Comments from the Department of Defense

OFFICE OF THE UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-4000

PERSONNEL AND
READINESS

JUL 6 2011

Mr. John H. Pendleton
Director, Defense Capabilities and Management Team
U.S. Government Accountability Office
441 G Street NW
Washington, DC 20548

Dear Mr. Pendleton,

This is the Department of Defense response to the Government Accountability Office draft report titled: Actions Needed to Improve Training Integration and Increase Transparency of Training Resources (GAO-11-625). Thank you for the opportunity to comment. Regarding the recommendations, we concur with item 1 and partially concur with items 2 and 3. Elaboration on these positions is in the enclosure appended to this letter.

Regarding your request for an FOUO and classification review, initial subject matter expert feedback indicates that portions of the report may contain FOUO information, and a detailed review is still in progress. I will forward the Department's coordinated security review response in separate correspondence once the review is complete.

Sincerely,

Laura J. Junor
Deputy Assistant Secretary of Defense
Readiness

ENCLOSURE

GAO DRAFT REPORT DATED JUNE 2, 2011
GAO-11-626 (GAO CODE 351506)

"BALLISTIC MISSILE DEFENSE: ACTIONS NEEDED TO IMPROVE TRAINING INTEGRATION AND INCREASE TRANSPARENCY OF TRAINING RESOURCES"

DEPARTMENT OF DEFENSE COMMENTS TO THE GAO RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense issue guidance that designates an entity to be responsible for integrating training across and among combatant commands and elements and provide that organization with authority to develop an overall ballistic missile defense training strategy which includes specific requirements and standards for integrating training and identifying and resolving any gaps in capabilities to enhance integrating training across and among all tiers (or combatant commands and elements). (See page 23/GAO Draft Report.)

DOD RESPONSE: Concur. The Department agrees the Secretary of Defense should issue guidance designating an entity to be responsible for assisting the combatant commands and Services in defining and coordinating enhanced, jointly integrated, standardized, and cost-effective ballistic missile defense training and education. This guidance is in line with the overarching strategy for training put forth in the "*Strategic Plan for the Next Generation of Training for the Department of Defense*," Office of the Under Secretary of Defense for Personnel and Readiness, September 23, 2010. The Office of the Under Secretary of Defense for Personnel and Readiness and US Strategic Command, with the assistance of the Joint Staff J-7, will provide the policy and required advocacy for the development of an integrated training strategy for ballistic missile defense.

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense direct the Secretaries of the Army, Navy, and Air Force and the Director of the Missile Defense Agency set a firm deadline to complete training cost estimates and element-specific agreements for elements already fielded and establish procedures that require the training cost estimates and element-specific funding agreements delineating funding responsibilities between the Missile Defense Agency and the Services be completed before additional elements are fielded. (Page 23/GAO Draft Report.)

DOD RESPONSE: Partially concur. New ballistic missile defense capabilities are essential to defense and must not be delayed. The Department acknowledges the benefit

of establishing training cost estimates and believes that these estimates and funding agreements can be developed in parallel with the fielding of additional capabilities.

RECOMMENDATION 3: The GAO recommends that the Secretary of Defense direct the Secretaries of the Army, Navy, and Air Force and the Director of the Missile Defense Agency establish procedures that require annual development and reporting of the total Ballistic Missile Defense System training budget (i.e., all Missile Defense Agency and Services costs for individual, unit, and sustainment training and combatant command and Services exercise costs.) (See page 23/GAO Draft Report).

DOD RESPONSE: Partially concur. The Department defines total ballistic missile defense (BMD) training costs as those direct or incremental BMD system training costs associated with fielding and sustaining element mission readiness for BMD capabilities. The Office of the Under Secretary of Defense for Personnel and Readiness will work with the Services and the Missile Defense Agency to develop policy for capturing and reporting total BMD training costs as defined above.

3

Appendix IV: GAO Contact and Staff Acknowledgments

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